JP Maths Revision

Attempt the paper before watching the solutions!

https://www.youtube.com/@JPMathsRevision

Solutions

FOUNDATION / HIGHER

Exact Trig Values

SOLUTIONS GUIDE

- Compare your **method** as well as your final answer.
- Check where **marks** would be awarded.
- If you got stuck, **try the question again** before reading the full solution.
- **Alternative** correct methods may be shown.

MARKING INFORMATION

- **Method marks** may be awarded even if the final answer is incorrect.
- **Alternative valid methods** may exist.
- Answers are given to the **accuracy** stated in each question.

HELPFUL ADVICE

- **Review** any questions you found challenging.
- Make **notes** on any topics to revisit.
- **Practice** similar questions to build confidence.

Non-Calculator

1. Complete the following table:

x°	0	30	45	60	90
$\sin(x^\circ)$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos(x^\circ)$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan(x^\circ)$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	

(Total for Question 1 is 4 marks)

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2. Write down the value of sin(30°)

$\frac{1}{2}$

.....

(Total for Question 2 is 1 mark)

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3. Write down the value of cos(60°)

$\frac{1}{2}$

.....

(Total for Question 3 is 1 mark)

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4. Write down the value of tan(45°)

1

.....

(Total for Question 4 is 1 mark)

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5. Write down the value of sin(45°)

$\frac{\sqrt{2}}{2}$

.....

(Total for Question 5 is 1 mark)

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6. Write down the value of cos(30°)

$\frac{\sqrt{3}}{2}$

.....

(Total for Question 6 is 1 mark)

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7. Write down the value of tan(60°)

$\sqrt{3}$

.....

(Total for Question 7 is 1 mark)

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8. Write down the value of sin(60°)

$\frac{\sqrt{3}}{2}$

.....

(Total for Question 8 is 1 mark)

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9. Write down the value of cos(45°)

$\frac{\sqrt{2}}{2}$

.....

(Total for Question 9 is 1 mark)

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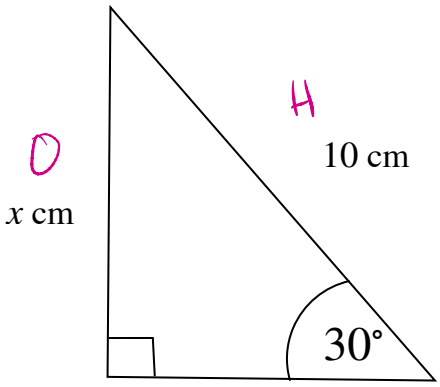
10. Work out the value of x.



$\sin 30 = \frac{x}{10}$

$x = 10 \times \sin 30$

$= 10 \times \frac{1}{2} = 5$

5 cm

(Total for Question 10 is 2 marks)

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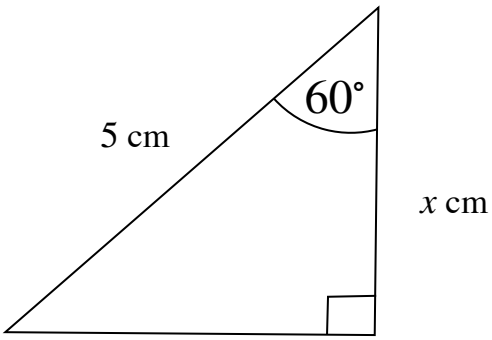
11. Work out the value of x.



$\cos 60 = \frac{x}{5}$

$\frac{1}{2} = \frac{x}{5} \Rightarrow x = 2.5$

2.5 cm

(Total for Question 11 is 2 marks)

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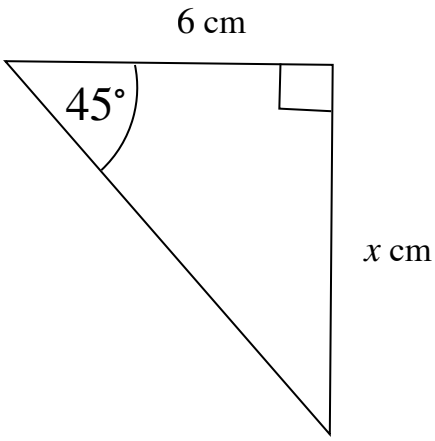
12. Work out the value of x.



$\tan 45 = \frac{x}{6}$

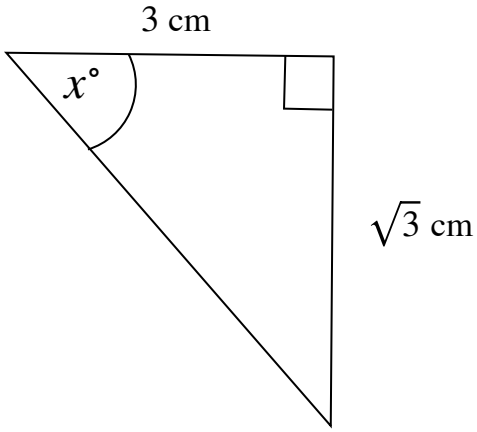
$1 = \frac{x}{6}$

$x = 6$

6 cm

(Total for Question 12 is 2 marks)

13. Work out the size of the angle marked $x°$.



$\tan x = \frac{\sqrt{3}}{3}$

$x = 30°$

30°

(Total for Question 13 is 2 marks)

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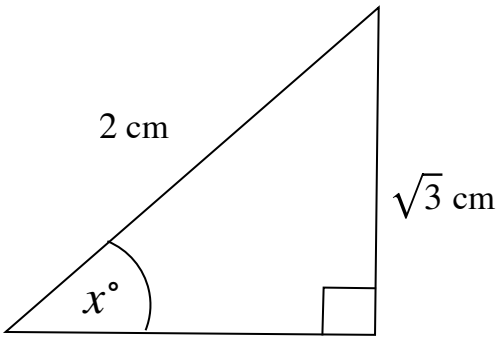
14. Work out the size of the angle marked $x°$.



$\sin x = \frac{\sqrt{3}}{2}$

$x = 60°$

60°

(Total for Question 14 is 2 marks)

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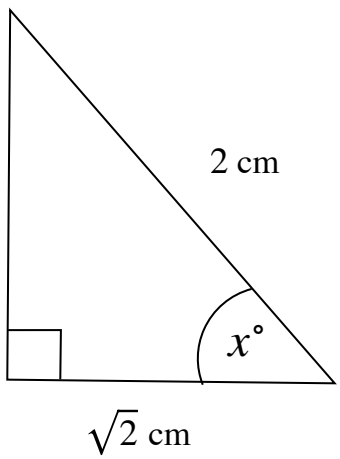
15. Work out the size of the angle marked $x°$.



$\cos x = \frac{\sqrt{2}}{2}$

$x = 45°$

45°

(Total for Question 15 is 2 marks)